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BALTIMORE SUN
31 January 1982

Soviet espionage siphon U.S. know-how

By Walter Taylor

Washington Bureau of The Sun

Washington—As a target for espionage, William Holden Bell was textbook perfect.

Then 59 years old and trying to keep pace with a new wife 25 years his junior, he was bitter about a relatively unrewarding career and desperately in need of cash to support a life-style of travel and leisure.

In short, Bell, a radar technology expert for Hughes Aircraft Company, a major U.S. defense contractor, was ripe for the picking. And picked he was.

Before the FBI caught up with him last summer, Bell, in exchange for about \$110,000, handed over to Polish government agents classified information regarding some of the West's most closely guarded weapons systems, including the Stealth bomber and several others designed to offset the Warsaw Pact's numerical superiority in Europe.

The Bell case is the stuff of spy drama in an era in which mercenary interests have come to outweigh the

First of three articles

political motivations of earlier times. Today, espionage coups can be scored through acquisition of the technology that goes into a child's electronic baseball game, and dummy corporations play as great a role as do secret letter drops and midnight rendezvous.

More significant, the case illustrates what law enforcement officials in the United States—including Attorney General William French Smith and FBI Director William H. Webster—see as a change in tactics by the Soviets in a concerted effort to obtain data about American advances in military and industrial technology.

While espionage in the United States certainly is nothing new for the Soviets, the law enforcement officials see the Kremlin using more than ever to clandestine means of gaining scientific hardware and know-how, since bans on over-the-

invasion of Afghanistan. Last month, President Reagan sought to toughen the embargo following the military crackdown in Poland, which he has said was inspired by the Kremlin.

The Reagan administration's action, federal law enforcement officials believe, is likely to spur the KGB and the GRU, the two Soviet intelligence agencies operating in this country, to ever-greater efforts to obtain secretly and illegally what Moscow once might have acquired openly.

Some experts, but by no means all, see the acquisition of outside technology as vital to Moscow's hopes of continuing its military competition with the United States and at the same time addressing its own internal economic problems.

If they were not able to utilize Western know-how as a sort of "quick fix," some of these experts believe, the Soviets would confront a continuing series of difficult trade-offs, particularly in allocating precious research and development resources, in trying to meet both their defense and domestic needs.

The West "is virtually subsidizing Soviet military power," says Dr. Miles Costick, who runs the Washington-based Institute for Strategic Trade and occasionally serves as a congressional consultant on East-West trade.

There are some, including a few members of Congress, who believe the extent to which the Kremlin relies on Western technology is greatly exaggerated by a Reagan administration that tends to view most foreign policy questions in East-West terms. This would seem to be a minority view, however.

Representative Jonathan B. Bingham (D, N.Y.), chairman of the House Foreign Affairs subcommittee that oversees U.S. trade policy, asserts flatly that the Reagan administration has overstated the seriousness of the problem to the United States, particularly the contribution the West has made to the Soviets through over-the-counter sales of know-how.

Others, including some top policy-makers in the executive branch, question Washington's ability to choke off such exports, even if such a goal is warranted.

"There is no doubt that Western technology has had some impact," says William A. Root, director of the Office of Policy Planning and Research in the State Department, but "if you take the line that any trade frees resources for military production, that basically is a formula for a total embargo, and this is

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WILMINGTON NEWS JOURNAL (DE)
31 January 1982

STATINTL

U.S. keeping track of profs from abroad

FEDERAL OFFICIALS want to know exactly what 25 scholars visiting from the People's Republic of China are doing at the University of Delaware.

The White House has declared a campaign against what it calls a "hemorrhage" of technical national security research from being published by the academic community and leaked from its own agencies.

The key battle with the academic community may come over the government's decision to step up a program to monitor visiting scholars from the Soviet Union and People's Republic of China.

A consortium of government agencies, composed of the Defense, State, Commerce and Energy departments, has already distributed forms to at least 600 scholars visiting from the Chinese mainland.

The effort to monitor the work of visiting communist nationals in the university community is part of a unprecedented attempt by the Reagan administration to tighten up access to the potentially sensitive work of academic, government and business researchers.

So far, no one from the University of Delaware has received the forms, according to Dean C. Lomis, international student adviser. But a spokesman for the State Department said the department has mailed only about 10 percent of the forms it plans to send.

Although top CIA officials have been conducting a campaign against loss of technology expertise through leaks in university research, it is not clear whether the CIA is involved in the current investigation. CIA spokesman Dale Peterson would neither confirm nor deny any agency involvement in the monitoring of scholars.

Bobby R. Inman, the No. 2 official in the CIA, called two weeks ago for American and foreign researchers to let the government review their work to determine whether the results can be published or should be classified.

He warned that if the scientific community does not voluntarily submit to the CIA's request, the agency would push for congressional legislation making it mandatory.

James Oliver, a political science professor at the University of Delaware, agreed with other professors' assessment that the federal government is determined to classify much more research than it does now — either by assigning most of its research to secret work or by making "review" compulsory.

Oliver said the government's emphasis is part of the Reagan administration's efforts to stop high-level national security secrets from getting into the Soviet Union's hands.

The content of the forms being sent to universities depends on the government agency. They delve into the nature of the research and the scholar's competence, and ask if the research will be published.

The government agencies said they expect to mail up to 6,000 more forms soon.

State Department spokesman James Manard said the government has a great interest in learning the specifics of what visiting scholars working on classified research are doing.

Manard said a key area of interest is whether the United States may be losing its technological edge by exposing visiting scholars to the development of "trade secrets," even in privately financed work.

He said Chinese nationals are being singled out because the flood of Chinese applicants has prevented the U.S. government from taking an extensive look into their research backgrounds.

Manard said the Chinese scientists are being asked to provide up-to-date and more-detailed information, which then will be forwarded to the appropriate government agency.

Officials said each agency will determine whether to take action to remove scholars from research projects or force them to apply for a special Commerce Department agreement that protects U.S. interests.

The Commerce Department said it has sent out questionnaires to 30 institutions so far.

At least one University of Delaware official questions whether the school has to turn over any information on the visiting scholars there.

Lomis said the Educational Privacy Act of 1974 protects all students and professors from outsiders asking questions. The law, Lomis said, applies even to the State Department.

Lomis said that when the forms arrive, the university will have to decide whether it will claim protection under the law.

Mary Hempel, a university spokeswoman, said the school had no comment on what action it intends to take.

The Defense Department declined to elaborate on how it follows up on the questionnaires.

The controversy over the monitoring of the scholars heated up last year when a professor at the University of Minnesota refused to fill out the form, saying that the federal government had no right to even ask the questions.

The professor went to the local media, which, Manard said, "made a bigger issue out of it than it is." The State Department eventually was able to find out that the student was not involved in any high-technology research, he said.

Janine Jaquet

LETTERS TO THE EDITOR

More Science, Not More Secrecy

Deputy CIA Director Bobby R. Inman's fear of our providing new critical scientific and technological concepts to the U.S.S.R. undoubtedly is a genuine concern about an important problem. However, his solution—the prior submission of research for examination by intelligence authorities—is really a poor idea, for there is no science without the free interplay of ideas, especially those in the open literature.

Weapons systems demand secrecy. To extend this approach elsewhere on the grounds of national security would be terribly wrong if it turned out that the so-called threat was really political (or, even worse, economic). To what extent do we withhold scientific breakthroughs? Arguments can be made in each of these cases as why it is important for our national security to be in the lead and to maintain it.

Let me suggest another approach for the CIA. If leaders such as Adm. Inman truly recognize the increasingly critical impact of science and technology on our national security, they should urge the administration and Congress into a massive expansion of this country's science base; provide more dollars for research

and development in our universities, in our national laboratories and in the form of tax incentives or direct grants to industry; turn around the declining output of PhD scientists and engineers and make sure that these people are fully recognized (and compensated) for their importance to society; ensure that our schoolchildren get early science training and, further, that physics and mathematics and computer sciences are part of everyone's high school education.

If we were to move aggressively in these directions, we might not prevent research advances from leaving our shores, but we would at least be assured that we remained well ahead of everyone else.

A. R. LIBOFF

Rochester, Mich.

Adm. Inman stands as "Exhibit A" of the myopia and paranoia now gripping our top military and intelligence leadership ("Scientists Urged to Submit Work for U.S. Review," Jan. 8). He wants the golden egg so much that he is willing to kill the goose that laid it. There is no question that he is right: military censorship of academic and private sector research will certainly shut off the flow of valuable technology and scientific insight from the Russians. It will also shut it off at its source. How can he be so blind to the fact that it is our very cultural and academic freedom that produces such creativity in the first place?

Put a few more Inmans in charge, and the Russians will never need to drop the bomb. We will conquer ourselves by imitating their strangulated society.

Yes, Admiral, there will be a tidal wave of public outrage. Have you built your ark?

HOWARD E. BALL

McLean, Va.

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ON PAGE 18

BOSTON GLOBE
28 JANUARY 1982

Hobbling science

Citing cases in which the Soviet Union supposedly gained militarily by acquiring US high technology, either equipment or information, the Reagan Administration seems headed toward more comprehensive controls over the scientific community.

While the country obviously protect genuine military secrets, Congress and the public should be wary of secrecy policies that will hobble scientific research and undermine further technical advances that build a significant American leadership.

The alarm was sounded earlier this month by Adm. B. R. Inman, deputy director of the Central Intelligence Agency, in an address to the annual meeting of the American Association for the Advancement of Science; he cautioned scientists on the need for more stringent security reviews of their work to prevent exploitation by the Soviet Union. It was echoed two weeks later in an essay by Caspar W. Weinberger, Secretary of Defense, published in the Wall Street Journal.

In each case plausible arguments were offered for increased awareness of the issue by academic and corporate scientists and engineers, especially in the fields of weaponry and communications. In Inman's address, the field was broadened somewhat to include cases where "certain technical information could affect the national security in a harmful way. Examples include computer hardware and software, other electronic gear and techniques, lasers, crop projections, and manufacturing procedures."

Much of the information to which they allude appears in scientific journals or is built into equipment available on the open market. It is read and purchased not only by the Soviet Union, sometimes through straws in other countries, but is also read and purchased by Americans for their own use — and growth.

Weinberger in particular has been actively urging American allies to take seriously the

dangers of allowing the Soviet Union access to such information and products. The idea is apparently to construct a technological membrane through which no sensitive material might pass.

Given the enormous numbers of channels through which such information and products pass all over the world, the task seems impossible without sharply curtailing both legitimate communication within the scientific community and interfering with normal commercial activities — to the detriment of both.

It is important to bear in mind that the Inman-Weinberger proposals are not directed primarily at information about such long-standing secrets as thermonuclear weaponry. They are directed at discussions at the fringe of computer development and use; at manufacturing techniques for miniaturization that has led to the explosion of computer-on-a-chip technology; at programming for a host of applications. All of them are widely used in commercial applications as mundane as elaborate computer war games.

Such developments flourish in an atmosphere that combines competition with free flow of ideas and information. The world proposed by Inman and Weinberger, although they promise no excesses, has a decidedly different cast — one of self-policing if possible and bureaucratic policing if necessary. If the latter develops, as will almost surely be the case, then penalties will attach to those deemed in violation. Scientists and engineers will undoubtedly spend (waste?) some of their time looking over their shoulders for the censors.

Creativity may not dry up in such a world, but it impossible to believe that it will not be diminished. "Secrets" will still not be kept much better than they are today, in all likelihood. In that event, we will have the worst of both cases, to the detriment of the most dynamic sector of our scientific and technological society.

King Hassan in trouble

The Reagan administration is concerned about the deteriorating situation in Morocco, mainstay of American policy in the Maghreb, and is taking action to help King Hassan. A remarkable series of high-level visits to Rabat, the Moroccan capital, by American officials has underlined this concern. Among the visitors have been the defence secretary, **Caspar Weinberger**; the agriculture secretary, **John Block**; the commerce secretary, **Malcolm Baldrige**; the administration's trouble-shooter, **Vernon Walters**; the deputy director of the CIA, **Bobby Ray Inman**; and the deputy defence secretary, **Frank Carlucci**. The secretary of state, **Alexander Haig**, postponed his planned visit after the military takeover in Poland, but is set to come in February.

King Hassan has two serious problems: a drought which has left Morocco very short of grain and meat, and the military successes by the Polisario guerrillas in the Western (formerly Spanish) Sahara, which Morocco has occupied.

Morocco will have to import about half of its grain needs this year and urgently needs imported meat, now being sold locally at exorbitant prices. Fears are being expressed in Rabat that the high food prices could undermine King Hassan's control and strengthen the hand of his low-lying but formidable opposition. The Reagan administration is likely to give the king much of the food aid that he needs.

Morocco's fight with the Polisario guerrillas for control of the Western Sahara goes mainly unreported, and information about what is happening remains sketchy. The Moroccans say that they fought off two attacks on their positions north of Smara, one near Khreibichet and the second near Abbatih. There are reports that the isolated Moroccan garrisons at Guelta Zemmour and Bir Enzaran have been abandoned and taken over by Polisario forces. Guelta Zemmour was fought over in mid-October; then, while the Arab summit was holding its all-too-brief session in Fez on November 25th, the news came through that it had been overrun by Polisario.

The Moroccan army remains in control of the coastal garrisons of Bojador and Dakhla (but the taking of Bir Enzaran puts Dakhla at risk) and the heavily-guarded triangle between El Aaiun, Smara and Bou Craa (which King Hassan has called "the useful Saharan triangle"). The Moroccans say they have lost two F-5 fighters and a C-130 Hercules transport aircraft, which, they claim, were shot down by Sam-6 missiles.

Saudi Arabia, a close ally of Morocco and King Hassan's chief financier, is alarmed and the deputy interior minister, Prince Ahmad bin Abd al-Aziz, has said that a draft security agreement with Morocco is under urgent consideration in Riyadh. According to some reports, the Saudis are already giving Morocco up to \$1 billion a year.

President Reagan has lifted an American ban on the sale of M-60 tanks to Morocco but King Hassan has apparently not yet raised the money to buy them. American sources say he may receive military aid of about \$100m including 20 F-5s. He already has about 48 F-5s.

The Americans have not received any confirmation of Morocco's claim that the Polisario is using Sam-6 missiles, for the first time, in the desert war.

The Americans have not yet seen the flight recorders of the downed planes which would show their altitude when hit and therefore give a clear indication of the range of the missile. Diplomats in Rabat say that there is no evidence that Polisario has Sam-6 missiles.

HOUSTON POST
27 January 1982

Censoring research

One of the toughest security problems facing the United States and its allies is how to keep our high technology with potential military applications from reaching the Soviet bloc. Two recent initiatives by the Reagan administration indicate the seriousness of its commitment to tighten control over the transfer of our most advanced technology to the Soviet Union and its satellites.

At a meeting in Paris last week, the United States won an agreement by our Western European allies and Japan to redefine guidelines for technological exports, ranging from ball bearings to metallurgical processes, behind the Iron Curtain. Though the meeting was termed a success, many differences reportedly remain over how strictly the 30-year-old guidelines should have been redrawn.

Shortly before the Paris meeting, a top Central Intelligence Agency official proposed that U.S. scientists working in certain sensitive fields voluntarily submit their research for censorship by intelligence agencies. Adm. Bobby Inman, deputy CIA director, told a convention of the American Association for the Advancement of Science that there is a "hemorrhage" of this country's technology and that Soviet military advances of recent years have been based largely on the work of U.S. scientists. Inman suggested that scientists in certain fields submit their work both before research begins and before publication.

The reaction of the scientific community to the censorship idea ranged from skeptical to hostile. "What alarms scientists about the (Inman proposal)," said William Carey, executive officer of the AAAS, "is that once science accepts the government's right of prior restraint, the programs are carried out by individuals in the national security establishment. They resolve questions, where there is doubt, on the side of censorship rather than the freedom of scientists."

A White House spokesman said the administration is not considering a mandatory government review of scientific papers. But Inman wants scientists working in computers, electronics, lasers, crop projections and various manufacturing processes to submit their work to intelligence agencies.

The Soviets and their allies have engaged in a long, intensive campaign to obtain the cream of Western technology through outright purchases, theft or simply by reading scientific journals and government documents that are open to the public in free societies. But while the openness of our system makes accessibility to much scientific data easy for Soviet espionage agents, it also facilitates the exchange of information and ideas within the scientific community. It is that freedom of communication that has helped make our technology superior to the Soviet bloc's.

Classifying scientific material on the basis of its national security value would mean passing judgment on a huge volume of research. While there are certainly legitimate uses for the top secret classification for some sensitive material, an extensive review program by intelligence agencies could slow and, in some cases, stifle potentially valuable research. The Soviet Union has paid a far higher price for its pathological practice of secrecy than we have with our openness. If we adopted overzealous practices to keep our high tech research out of their hands, we could ultimately become the big losers.

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BOSTON GLOBE
27 January 1982

Two tell a story of foray into Laos

Mission sought POWs, say ex-Green Berets

By Ben Bradlee
Globe Staff

LOS ANGELES — Two teams of Laotian resistance soldiers, organized, equipped and financed by the United States, crossed into Laos from Thailand on Nov. 15, seeking to obtain photographic evidence that American prisoners of war are still alive and being held in Laos, according to two ex-Green Berets who supported the operation.

The operation, of which the Pentagon said it had no knowledge, was at least the second such secret foray by American-backed Laotians in the last year. It is not known what happened to the reconnaissance teams dispatched in November.

The two nine-man guerrilla units, participating in what was code-named "Operation Grand Eagle," were bound for four camp sites where recently gathered intelligence reportedly showed at least 39 Americans are being held. The teams left Thailand from different locations and intended to meet in Laos.

The Laotians were made available to the United States by Vang Pao, a former Lao major general who, during the height of US involvement in Southeast Asia, commanded some 40,000 anticommunist tribesmen who served as a secret army for the CIA.

In arranging the November foray, Vang Pao, who today lives on a barley ranch in Montana, collaborated with James G. Gritz, a 43-year-old retired Green Beret lieutenant colonel and much-decorated Vietnam veteran who lives in Los Angeles. Gritz and Vang Pao first discussed the mission last July in the Los Angeles office of Rep. Robert K. Dornan, a conservative Republican from Los Angeles who is an announced candidate for the US Senate.

Vang Pao, in a telephone interview, denied entering into an arrangement with Gritz. But Gritz possesses a letter of introduction signed by the Laotian asking his followers in Thailand to cooperate with

training mission. In addition, Rep. Dornan confirmed that one of his aides was present when Gritz and Vang Pao were discussing the plan.

Deputy CIA Director Bobby Ray Inman, who met with Gritz in December to discuss the reconnaissance plan and the prisoner-of-war issue, denied "to the best of my knowledge" that any government agency was involved in supporting the November mission. He did not deny that the mission took place, and acknowledged that government intelligence agencies have had contacts with various private groups concerning POWs over the last several years. Inman said, however, that these contacts had not yielded any "solid information."

Adm. Allan G. Paulson of the Defense Intelligence Agency (DIA), the Pentagon's intelligence arm and the group charged with official responsibility for investigating reports of missing POWs, declined through a spokesman to comment on the November mission. A Pentagon spokesman said the Department of Defense had no knowledge of it.

In a series of interviews with The Globe, Gritz said he had been contacted last June about the POW situation by a secret military intelligence agency that was created in the aftermath of the failed rescue of American hostages in Iran in 1980. Gritz would not reveal the agency's name or whom it reports to.

The elite unit, Gritz said, is patterned after the British Strategic Air Service and similar organizations in Israel and West Germany, and is designed to transcend an often-cumbersome Joint Chiefs of Staff bureaucracy and take direct action in situations where Americans abroad find themselves in life-threatening situations. The organization generates its own intelligence and has a Special Forces unit assigned to it, according to intelligence sources. Dornan, in an interview, said he knew of the group's existence but had not been told its name.

Gritz said the government agency gave him \$40,000 in several cash payments over the second half of last year in order to equip Vang Pao's Laotians and send three retired Green Berets and an ex-military intelligence officer to accompany them.

LONDON DAILY TELEGRAPH
25 January 1982

Comrades in arms—thanks to Brezhnev's Artful Dodgers

AS the Nato alliance wavers about sanctions against Russia, the ugly realisation is beginning to dawn that it is Western technology, purchased as well as purloined by the Russians, which has enabled them to construct the redoubtable war machine which threatens both Poland and the West.

Red Army tanks and guns, Soviet aircraft, missiles and warships were all created with the help of our research and development, our project designs and our industrial know-how. The SS18 missiles pointing westward are guided by a micro-processor taken from an American stand at a trade fair. Soviet heavy artillery is built with machines bought from West Germany. The sale of American machinery for producing minute ball-bearings has helped to make Soviet missiles deadly.

These are just a few examples adding substance to the recent statement of Adm. Bobby Inman, deputy director of the CIA, that most of the military technology which since 1964 has made the Russian armed forces so formidable came from America and her closest allies.

Yet it was only after the invasion of Afghanistan that America imposed a technology embargo which succeeded in hurting the Soviet computer industry. The Russian RIA-D computer series had been based in the first place on an IBM 360 spirited away from West Germany in the 'sixties. Since then the Soviets have tried to keep up by buying their way into European computer firms on the Trojan Horse principle.

It is the Polish crisis and the urging of President Reagan which have alerted the Europeans to the danger of technology seepage. Last week Cocom, a committee of Nato nations plus Japan, met in Paris to discuss means of limiting the export of military technology to Russia, though France, who had been active in selling strategic goods to the East, has already announced that she has tightened the screw.

Not before time: the Europeans are to revise their 30-year-old list of material classified as strategic which may not be exported to Russia. It has been largely ignored for years and is hopelessly out of date. The West Germans are still responsible for serious leaks by selling American high technology products as well as their own based on American work.

Ever since the 1939-45 war when Lease-Lend supplies to Russia were used as a basis for setting up modern Soviet industry, Russia has been allowed to exploit Western technology to build its war machine. Papers recently made

**CHRISTOPHER
DOBSON and
RONALD PAYNE**

show how Russia uses
Western technology to
slay in the arms race.

available by the Public Record Office show that even after the war Stalin was allowed to import the latest Rolls-Royce jet engines, copies of which powered the MiGs used against us in Korea.

That was just the beginning. Since then Soviet military scientists have devoted great effort to "clandestine acquisition" of the know-how and technology to construct military equipment better than our own.

Directorate T, the science and technology branch of the KGB, has thousands of technical and scientific officers trained at its own academy. In the field their cover is to appear as diplomats, trade mission members or representatives of the Academy of Sciences. A third of those who have dealings with Western academics and scientists are directorate men or from military intelligence.

In this country there is not only a large Soviet embassy but also a trade mission in Highgate with a staff of 50. In addition 30 inspectors are attached to British factories, ostensibly for quality control of goods being sold to Russia.

It is estimated that there are at least 6,000 Soviet spies operational in the West and Directorate T constantly searches out military high technology for war-like purposes. This is the true arms race. Its task is to amass information about nuclear development, lasers, aerospace, optics, metallurgy, chemical and production processes. Micro-electronics, the heart and brain of modern weapons, is a subject high on their probe list.

Although America still leads in computers and electronics the Russians are catching up with the aid of other people's expertise. American officials suggest that while in 1965 Russia was 10 years behind it has now closed the gap to a mere three, or in some fields two, years.

The directorate also takes keen interest in energy drilling, especially deep drilling at high temperatures, because the technology has ramifications for armour-piercing weapons.

A courageous Norwegian code-named Arne, who was approached by KGB men when working in the oil industry and then asked to work as a "double" for his own Government, told us how they pumped him for information. He was controlled by a distinguished Soviet scientist, Dr. V. Belozero, Secretary of the International Institute for Applied Systems Analysis in Vienna, who was forced to resign when the affair came to light.

When Arne provided the KGB with information freely available in a company publication he was asked to have it typed on a paper marked "Secret". For the Russians, published information was too easy to get, and to satisfy the money spent they wanted to make its acquisition look more difficult to their masters.

COMPUTERWORLD
25 JANUARY 1982

ACM Head: Consider Government Review of Research



Dr. Peter J. Denning

By Jake Kirchner

CW Washington Bureau
WASHINGTON, D.C. — The scientific community should seriously consider Central Intelligence Agency suggestions that DP and electronics research done in the private sector undergo a formal government review process, the head of the Association for Computing Machinery (ACM) said last week.

If the government can prove contentions that the publication of research results is jeopardizing national security, most scientists would agree to some corrective measures, Dr. Peter J. Denning, ACM president, said in a telephone interview. Denning's remarks were in response to a recent speech by Deputy CIA Director Adm. Bobby R. Inman, who said national security considerations should be routinely considered in the peer review process when research papers are being prepared for publication [CW, Jan. 18].

Inman noted the existence of the Public Cryptograph Study Group, representing the intelligence agencies and the academic and scientific communities, which reviews cryptography research findings. He suggested the same process should be extended to other fields, including "computer hardware and software and other electronic gear and techniques."

Denning said that "at the very least I think his proposal deserves discussion" because "it is basically compatible with the idea of openness." He noted that the review committee's opinions are advisory and researchers and editors are free to publish no matter what the committee finds.

"Most scientists are concerned that their work ... not interfere with national security," according to Denning, chairman of the Purdue University computer science department. He "would probably be very cooperative" with government agencies if they were to suggest ways to publish his work that would not damage national security.

Denning noted this is "a very, very sensitive issue" and there are "very, very strong feelings on both sides of it." He himself is "committed to the principle of openness" and feels "we shouldn't tamper with" scientific freedom. Therefore, he said, he would like to see more data to prove or disprove Inman's supposed "hemorrhage" of U.S. technology to the USSR.

"Right now there is a certain amount of fuzzy thinking in government circles about technology transfer mechanisms," according to Denning, who said that Americans have indeed come up with the short end in scientific exchange programs with

and manufacturing techniques that would be most helpful to the Soviet military.

Most technology transfer problems, "can be handled without choking off the bulk of scientific publication," Denning said. He suggested that an open discussion of the issues, perhaps in a public congressional hearing, could make the situation clearer.

If there really is a national security problem resulting from the publication of electronics research, he said, Inman's idea is better than "more Draconian measures" of secrecy that might be imposed by Congress.

Inman's suggestion that scientists risk a backlash of public and congressional opinion against their work will be seen by some "as a kind of veiled threat" of government censorship, Denning said. But, "being an optimist," he prefers to think of it as Inman's attempt "to find some kind of middle ground" between the two "extreme positions" of complete scientific freedom and government censorship.

Inman's plan for a "cooperative agreement" between government and the scientific community may be "a reasonable solution to the problem," according to Denning, who said "there are possibilities of compromise" between the two sides.

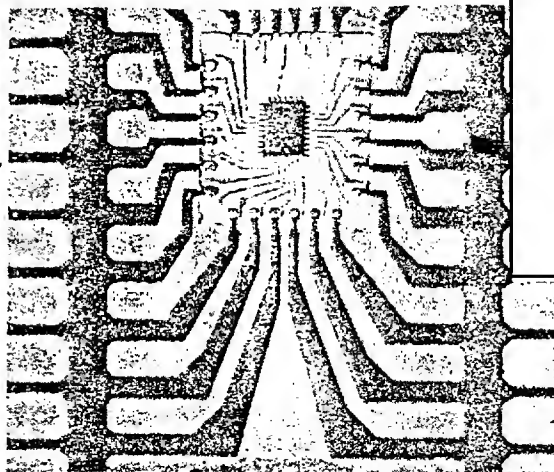
"Inman's proposals have that potential," Denning said.

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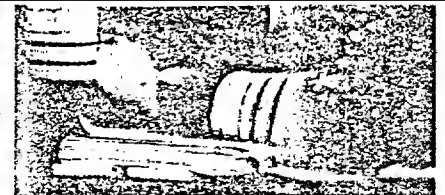
NEWSWEEK
25 JANUARY 1982



Bruce Hoertel



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Weinberger, a microchip circuit, Inman: Warnings that Moscow intends to use the West's own technology as a weapon

Keeping High-Tech Secrets

Last summer a fisherman off the North Carolina coast hauled in an unusual catch: a Soviet sonar buoy. Inside, Pentagon experts found a sophisticated electronic package that could transmit information on water temperature, current speed and salinity—all of great value to Soviet submarines at sea. More disturbing was the discovery that the electronic chips guiding its operation were replicas of circuitry made by RCA Corp. in the United States. That and many similar incidents have convinced the American Government that the leakage of Western technology to the Soviet Union has grown to alarming proportions. Using the Polish crisis as its rallying point, the Reagan Administration has launched a determined effort to persuade U.S. specialists and the Western allies to staunch the flow. In a bellwether speech last week, Assistant Commerce Secretary Lawrence J. Brady recalled the prediction attributed to Lenin "that the capitalists would gladly sell the rope with which they would be hung."

The United States took its case to Brussels last week at a special meeting of the NATO alliance to discuss Western responses to the military repression in Poland. The NATO ministers agreed that "Soviet actions toward Poland make it necessary for the allies to examine the course of future economic and commercial relations with the Soviet Union." That examination will begin this week under the aegis of COCOM, the Coordinating Committee for Multilateral Export Controls, an obscure organization in Paris that regulates Western sales of military, nuclear and sensitive technology to the Communist world. The U.S. delegation will be pressing for much tighter restrictions on the sale of sophisticated

goods and technologies. "We will present new evidence to our allies on how the Soviet Union and Warsaw Pact are using Western technology to strengthen their offensive military capabilities," Defense Secretary Caspar Weinberger wrote in the Wall Street Journal last week.

Specifically, the United States will be pushing for strict new curbs on goods that can be used for both civilian and military purposes—and a total embargo on equipment needed by the Soviets to build their 3,600-mile natural-gas pipeline from Siberia to Western Europe. Such proposals have

*Washington launches
a drive to cut
the flow of valuable
Western technology
to the East bloc.*

already raised protests in West Germany, where the Soviet trade is particularly lucrative. Faced with an unemployment rate of 7.3 percent—the highest level in two decades—West German Chancellor Helmut Schmidt has been telling audiences that an American grain embargo would be a more effective sanction against the Kremlin's misbehavior in Poland. And besides, insists a spokesman for the West German economics ministry, "the East bloc has the raw materials and we have the capital and the know-how. It's a state of affairs which cries for cooperation."

restrictions that the Reagan Administration hopes to impose at home. Warning of a public outrage against any further "hemorrhage of the country's technology" to the Soviets, deputy CIA director Bobby Ray Inman recently warned American scientists to voluntarily submit their work for review by intelligence agencies. The alternative, he asserted, would be "a confrontation between national security and science" that could lead to repressive laws restricting the publication of any scientific findings that the government considered "sensitive" to national security.

Such a confrontation has already occurred between Washington and some major research centers. Last fall the State Department sent letters to academic researchers across the country requesting information about the study programs of foreign science students. Many schools bristled at what they felt was an intrusion on academic freedom. "Our response was to send the State Department a copy of the physics department's catalogue describing the courses," says Edward Gerjucy of the University of Pittsburgh. "These are our programs and all of our graduate students are treated the same way." The Massachusetts Institute of Technology also refused to cooperate. "We do not do any classified work here, therefore I do not find it necessary to fill out the form," says Herman Feshbach, chairman of MIT's physics department.

Cryptography: Many university researchers do cooperate with the government in sensitive fields like cryptography: a study group composed of academicians and government intelligence specialists screens cryptography manuscripts before publica-

NEWSDAY (NY)
22 JANUARY 1982

The Security Risks of Scientific Research

There may be the germ of a good idea in a rather vague proposal made recently by Bobby Inman, the CIA's deputy director. It's aimed at denying hostile foreign powers access to scholarly research that could help them advance their military technology. But it needs to be thought out much more carefully.

We can see the advantage of warning scientists that publication of some of their research might threaten the nation's security in ways they hadn't anticipated.

Yet we're also deeply troubled by any plan that would involve sending scientific papers to Washington for review before publication. Unless it were entirely voluntary, it would put at risk Americans' rights to speak and print whatever they wish. By hampering scholarly discussion, it might do far more harm than good to scientific research. It would require a new bureaucracy of science monitors. And even if it began as a voluntary system, it could easily develop a momentum that would nudge it along, a step at a time, toward compulsory censorship.

Several of the Reagan administration's actions also suggest that skepticism is warranted. Within the past few weeks, it has sought tight new controls on official contacts with the press, proposed curtailing access to government files and suggested barring foreign students from research projects that might result in technology leaks to their home countries. Taken together with Inman's proposal, all this suggests an administration with a budding fetish for security, and not much concern for the price.

Still, we can easily imagine an independent researcher unknowingly turning out a paper on some subject—lasers, say—that would help an enemy develop a new weapons system or counter an American one. Inman claims that upcoming congressional testimony will reveal shocking instances of just such inadvertent exposures.

If those examples do indeed demand some corrective, then it *might* be acceptable to set up a screening bureau and ask that research in specified areas be sent, voluntarily, for advisory review.

But the safeguards would have to be clear. The subjects covered would have to be inextricably linked to security concerns. Submission would be up to the researcher. Review would be prompt, and—to avoid conflict with First Amendment guarantees—researchers would be free to reject any suggested changes.

And even then we'd be none too comfortable. Whether the discomfort would be worth living with depends on how convincing a case can be made for any kind of security review.

U.S. Scientists Balk at Enforcing Restrictions on Soviet Visitors

By Philip J. Hilts

Washington Post Staff Writer

University scientists and administrators, backed by the National Academy of Sciences, are resisting efforts of the federal government to further restrict Soviet scientists' access to technological information during visits to American campuses.

The Reagan administration has become increasingly concerned that much of the Soviet Union's military strength is based on its acquisition of U.S. scientific and technological knowledge and developments.

The confrontation was joined Dec. 14 when Stanford University received a routine letter from the National Academy about a Soviet robotics specialist, Nikolay V. Umnov, who wanted to visit four U.S. universities, including Stanford. The letter said that, on State Department orders, Umnov would have to be put under certain restrictions if he were to visit.

Stanford refused to go along with the restrictions, and Stanford President Donald Kennedy expressed his "grave concern" over federal attempts to apply restrictions to academic work.

Robert McGhee, a professor at Ohio State University who was expected to host the Soviet scientist for the longest period while he was here, has also called the State Department to back out of the arrangement. He said he had no means of policing the activities of Umnov for the six weeks he would be in Columbus, Ohio.

On Monday, the National Academy of Sciences, which runs the exchange program through which the Soviet scientist would visit, backed

up Stanford's position. A spokesman said the academy will stop acting as a middle man and will no longer pass on State Department orders to universities.

The academy no longer will help enforce restrictions on the scientists' activities and access to information, at least until its officials can negotiate the matter with the State Department. Academy spokesmen said this stance has been taken because recent restrictions are "stiffer than in years past" and in some cases "difficult or impossible to enforce."

A State Department spokesman conceded that the restrictions may indeed be tougher than they have been in the recent past.

"It has a lot to do with the atmosphere in Washington, and the worry about what we are leaking away to the Soviets," he said.

The academy's sudden action this week quickened the duel between academics and the government over questions of intellectual freedom and national security. Two other recent incidents and statements have struck sparks between academics and the government.

Late last year, the State Department sent out about 600 letters questioning universities about the activities of Chinese scientists on their campuses. In a half dozen cases, the State Department estimated, universities were asked to restrict what the Chinese could see and do. Some universities, including Stanford and the University of Minnesota, refused to comply, and the matter is not yet settled.

Two weeks ago, Adm. Bobby Inman, deputy director of the CIA, told scientists that they should

voluntarily submit their work for government review and possible censorship on national security grounds because much of Russia's military power is built on U.S. science.

In the latest incident, Umnov's request to visit four U.S. universities was relayed by the National Academy to Stanford, the University of Wisconsin, Ohio State University and Auburn University.

Umnov specializes in building robotic walking machines that traverse rough terrain, and he was not to be shown any details of the computer programming that runs such devices in this country.

The government specified that he was to speak with scientists only at the theoretical level. He was not to be allowed any visit to industry. He should have no access, "visual, oral, or documentary," to production research or any classified or unclassified work that might be funded by the Defense Department.

Researchers who expected to host Umnov at the four schools all questioned the restrictions, partly because the work going on at the facilities is not classified and is published regularly in international journals.

Andrew Frank, a professor at Wisconsin, said that the Russians know so much more about the field, it would be to our advantage, not theirs, to have Umnov visit.

Asked about the possible military sensitivity of robotic machines that can move over rough terrain, he said the field is still at the most basic level of research and for decades to come, "anything you can do with walkers, you can do better with motorcycles and cars."

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ON PAGE 35

SCIENCE NEWS
16 January 1982

Silencing Science for Security

During the next decade, scientists may face greater restrictions on the dissemination of research results, said Admiral Bobby R. Inman, deputy director of the Central Intelligence Agency, last week. Inman suggested that one solution to the problem of balancing the needs of national security and science lay in including within the peer review process the question of potential harm to the nation.

The threat to scientific freedom may come from growing congressional and public awareness that the bulk of the new technology used in the buildup of Soviet defense capability was acquired from the United States or its allies, said Inman. "It is not easy to create workable and just solutions that will simultaneously satisfy the wide-ranging needs of national security and science, but I believe it is necessary before significant harm does occur, which could well prompt the federal government to overreact," he warned.

Inman presented his personal views during a panel discussion at the annual meeting of the American Association for the Advancement of Science. He said this symposium is an appropriate place to "remember that national security and scientific interests can best be advanced through a joint effort."

However, many scientists have been concerned about possible restrictions on publication of their results. The day after the symposium, the Council of the AAAS adopted the following resolution as policy: "Whereas freedom and national security are best preserved by adherence to the principles of openness that are a fundamental tenet of both American society and of the scientific process, be it resolved that the American Association for the Advancement of Science opposes governmental restrictions on the dissemination, exchange, or availability of unclassified knowledge."

Leonard M. Rieser, chairman of the AAAS Committee on Scientific Freedom and Responsibility, told SCIENCE NEWS, "What we see is the risk of stifling the scientific and technological community, with a certain objective in mind, and through the process weakening that community and weakening national security."

At the symposium, panelist Peter J. Denning, president of the Association for Computing Machinery, said that if the United States lessens its free flow of scientific information, economic losses will greatly outweigh reductions in national security risks. "The export control laws are an attractive vehicle for extending the government's protective influence because it is easy to argue that publication in international journals is a form of export,"

The administration is very concerned about the loss of technology to the Soviet Union, and the matter is being addressed by a number of departments and agencies, said George A. Keyworth II, presidential science adviser. "There is no consideration being given to any mandatory program of government review of scientific papers," he said.

As a model of a "reasonable and fair" approach to the problem, Inman gave the example of the voluntary review of cryptologic research (SN: 10/17/81, p. 252) that was established while he was director of the National Security Agency (NSA). Researchers working in the area of cryptology send manuscripts to the NSA for pre-publication review. So far, 25 papers have been submitted, and none has caused the NSA any security concerns.

Scientific societies should follow the lead of the American Council on Education, which proposed the Public Cryptography Study Group, Inman suggested, and establish dialogues with pertinent government agencies to define problem areas. He listed examples of other fields where publication of technical information could affect national security in a harmful way: computer hardware and software, other electronic gear and techniques, lasers, crop projections and manufacturing procedures. He added that basic research has rarely presented problems for national security like those posed by applied science.

Rieser, however, was concerned "about the way one thing leads to another and finally develops into inappropriate scientific censorship." He said it is very difficult to keep scientific breakthroughs secret, and worried about the tendency to lump science and technology together.

Legislated solutions are likely to be more, rather than less, restrictive than the suggested voluntary review systems, Inman said.

One example of restrictive legislation is H.R. 109, a bill introduced a year ago in the U.S. House of Representatives that amends the Arms Export Control Act to authorize the Secretary of Defense to prescribe regulations that specify information to be protected from disclosure. The Council of the Association for Computing Machinery argued that the legislation would threaten to silence or inhibit research and development of computing technologies.

Mary M. Cheh, a George Washington University law professor, concluded her presentation on the issue: "Suppression generates hostility and mistrust, invites legal challenge, and reflects a broader conception of national security which recognizes that unfettered scientific re-

MEMPHIS PRESS-SCIMITAR
18 January 1982

Can Science Be Censored?

Government officials have started sounding a tocsin about a dangerous drain of U.S. and Western technology to the Soviet Union.

According to Defense Secretary Caspar Weinberger, "the Soviets have organized a massive, systematic effort to get advanced technology from the West," particularly computer and electronics technology, to support their military build-up.

When they cannot buy the actual hardware, either openly or clandestinely, they try to acquire it through bribery or theft.

As for information about the latest advances, they merely have to read Western scientific journals.

Adm. Bobby Inman, deputy director of the CIA, calls the publication of scientific work a "hemorrhage of this country's technology." He

warns that unless scientists voluntarily cooperate with the government in keeping some of their papers secret, an alarmed public will demand laws forcing them to do so.

The scientific community has reacted with its own alarm. Publication is one of the most important ways scientists communicate with each other. By attempting to deny the Soviets our best science by not publishing it, we would lose the science ourselves, says Robert Rosenzweig of Stanford University.

Requiring scientists to submit their research to government agencies for censorship would be a "nightmare," says William Carey, an official of the American Association for the Advancement of Science.

Yet last year, when he was head of the National Security Agency, Inman initiated a voluntary system under which researchers in the mathematical theory of codes submit their papers before publication.

Since then, about 25 papers have been reviewed and cleared, with no apparent problems.

We don't know if the same kind of system could be extended to every other sensitive field of technology, but the NSA program shows that it is possible and need not be a "nightmare."

Scientists, who are as patriotic as anybody else, should at least open a dialogue with the government about this problem, lest they bring about the very kind of clampdown they rightly fear.

ARTICLE APPEARED
ON PAGE 12COMPUTER WORLD
18 January 1982

Deputy CIA Director Wants DP Research Reviewed

By Jake Kirchner
CW Washington Bureau

WASHINGTON, D.C. — Results of advanced research in computer hardware, software and other areas of electronics should be subject to U.S. intelligence agencies' review in order to restrict Soviet access to technology critical to national security, Deputy Central Intelligence Agency Director Adm. Bobby R. Inman said recently.

Unless researchers submit to a voluntary review system, they may be faced with more stringent, legislated measures, Inman told the annual meeting here of the American Association for the Advancement of Science (AAAS) earlier this month.

Inman noted the National Security Agency (NSA) last year developed a voluntary review process for cryptographic research with the private sector. The process was initiated by Inman when he was head of NSA.

That process consists of submitting research findings to the Public Cryptography Study Group, formed by the American Council on Education and representing NSA and the U.S. scientific and academic communities. The committee's recommendations are advisory, and researchers are free to publish their work as they see fit.

"There are, in addition, other fields where publication of certain technical information could affect the national security in a harmful way," Inman told the AAAS. Examples include "computer hardware and software, other electronic gear and techniques, lasers, crop projections and manufacturing procedures," he said.

Opinion Backlash

Inman warned of a backlash of public and congressional opinion against the free access of foreign governments to U.S. technical knowledge. This could result in a wave of restrictive measures imposed on scientists, he said, claiming much of the Soviet military technology is already based on U.S. research.

Reaction to Inman's remarks among scientific and DP professional organizations has been generally negative, although representatives of several such groups contacted last week pointed out that Inman was not specific about how this voluntary censorship should be handled. They uniformly suggested that while technology diversion to the Soviet Union is a recognized problem, such censorship could have a chilling effect on the U.S. scientific community and hurt the U.S. more than the Soviet Union.

But, according to Inman, "scientists' blanket claims of scientific freedoms are somewhat disingenuous in light of the arrangements that academicians routinely make with private corporate sources of funding." National security concerns should be above "corporate, commercial interests."

Moreover, Inman told the association meeting, "much of the stimulating effort for computer science in this country came from government sponsored and controlled classified activity." He maintained that "science and national security have a symbiotic relationship — each benefitting from the interests, concerns and contributions of the other.

"In light of the long history of that relationship, the suggestion is hollow that science might be — or should be — kept apart from national security concerns or that national security concerns should not have an impact on scientific freedom," He said.

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ON PAGE A-10

THE WASHINGTON POST
18 January 1982

Secrecy, Security and Science

A SIMMERING CONFLICT between the intelligence and defense branches of government and parts of the scientific community became several degrees hotter at a session of the American Association for the Advancement of Science. Adm. Bobby R. Inman, deputy director of the CIA and former director of the National Security Agency, challenged scientists in a wide variety of disciplines to accept a system of voluntary regulation, including pre-publication censorship, or be "washed away by the tidal wave" of public anger.

The controversy has its origins in the obscure field of cryptology. In the past decade, rapid developments in computer technologies, including the development of microprocessors, have led to academic and commercial interest in a field that was once the sole province of governments. With such a large fraction of commercial and financial transactions being conducted through computers, there were new reasons to fear industrial espionage, large-scale embezzlement, the invasion of private medical records and so on. The need to develop secure computer codes, coupled with the newly available technologies, brought many people into the area of research that underlies the making and breaking of secret government codes and ciphers.

Exactly how much of a security threat such research poses can be fully answered only by someone with access to the classified material. Experts in this type of research and in the history of cryptology dispute the degree of danger claimed by Adm. Inman and others in the government. But the country's ability to intercept other countries' communications and to keep its own messages secure is undeniably vital, and intelligence agencies are obviously precluded from presenting evidence to support their claims. The most prudent course may be, therefore, to accept the government's assertions that at least some public cryptology research would harm national security, while keeping an ear tuned to those who warn of governmental excess.

Adm. Inman, however, went further. He stated

the government's desire to restrict research in a number of other fields including "computer hardware and software, other electronic gear and techniques, lasers, crop projections and manufacturing procedures." This sweeping but vague list would affect dozens of scientific and engineering disciplines. Justifying it, he said a "hemorrhage" of U.S. technology is heavily responsible for major improvements in Soviet defense capability.

Just how widespread that anxiety is in this administration was evident from the brochure, "Soviet Military Power," issued last fall by the Pentagon. It described the opportunities provided to the Soviet Union by Western scientific methods, including free communication, detailed publications, conferences and symposia and international exchanges. These, it was noted, provide information valuable to the Soviets and therefore damaging to the United States. The trouble is, however, that such practices are also an important means by which U.S. scientific preeminence has been achieved. To place on many restrictions on our successful system because it helps a system crippled by comparable restrictions would be foolish.

The openness of American society is a source of both weakness and strength, and always has been. We have not been terribly good at protecting technological secrets that can sometimes provide a major security edge for many years at very low cost. But the same openness has been responsible for producing those technological advances. The cost of an over-cumbersome system of secrecy restrictions in slowing U.S. scientific and technological progress could turn out to be far greater than the advantage denied to our enemies. Moreover it may simply be impossible to impose—modern science is a thoroughly international endeavor.

This is not to deny that there are valid security concerns that could and should be met. But they seem to us narrower than Adm. Inman and the Defense Department have suggested. If a more plausible case for severe restrictions exists, the government should make it.

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ON PAGE 4

JOURNAL OF COMMERCE
19 JANUARY 1982

The CIA Man's Formula For Smothering Science

By DANIEL S. GREENBERG

WASHINGTON — Are the Soviets really dipping into this country's vast output of scientific and technical knowledge?

No question about it — indeed they are. But there is a serious question concerning what we should do about it. A resolution of that question is becoming more urgent as senior defense and intelligence chiefs intensify demands for important segments of American science to curtain themselves off from prying eyes. If science doesn't voluntarily censor itself, Admiral Bobby R. Inman, deputy director of the Central Intelligence Agency, warned last week, its traditional resistance to "regulation of any kind" will be "wiped away by a tidal wave" of public and congressional concern.

When it comes to pressuring science into trimming its ancient practice of unrestricted communication, the admiral already has a historic scalp in his belt. For it was under his prodding, while he headed the super-

secret National Security Agency, that university-based computer scientists agreed to a voluntary system of government prepublication review of research papers of possible value for making and breaking codes. That reluctantly taken step, even with its voluntary feature, represented an unprecedented surrender in the peacetime history of our scientific community. Now Admiral Inman and his national security colleagues, backed by approving statements from the White House, want to extend the principle of voluntary collaboration to most, if not all, of American science and technology. Is that a good idea?

To the tunnel-visioned bureaucrats of national security, it's obviously a splendid idea. But their embrace of it reflects a medieval grasp of the workings of 20th century science and technology — so much so, that it is reminiscent of perpetual-motion engineering, leech medical therapy, and alchemy.

Scientists threatened by 'security' ploy

By JOE SHAPIRO

The Reagan administration has told U.S. scientists to cooperate in the new cold war or else.

This message was delivered by Adm. Bobby R. Inman, deputy director of the CIA, to the annual meeting of the prestigious American Association for the Advancement of Science (AAAS) in Washington last week.

In a panel discussion on Scientific Freedom and National Security, Inman advised scientists to establish a voluntary system by which research in sensitive areas would be reviewed by security agencies before research proposals were funded and before results were published. If this system was not set up, Inman threatened that a "tidal wave" of public outrage would force Congress to enact measures to prevent the leakage of security-related information to the Soviet Union.

Inman later said he was expressing a personal view and not that of the CIA. Nonetheless, it is clear that his talk is part of a long-term strategy to increase Department of Defense control over scientists, especially those at universities.

Over the last year, scientific exchange programs with the Soviet Union have been reduced drastically. In a letter published in

the AAAS journal Science two weeks ago, Deputy Secretary of Defense Frank C. Carlucci attempted to justify this by arguing, "The Soviets exploit scientific exchanges as well as a variety of other means in a highly orchestrated, centrally directed effort aimed at gathering the technical information required to enhance their military posture." In addition, the sale of high-technology equipment to the Soviet Union has been curtailed.

These developments are causing concern among scientists. William Carey, executive director of the AAAS, said that scientists did not want to be subject "to the whims of unknown people inside the walls of the military, not just about immediate problems, but potential ones."

Even some scientists with close ties to the military are upset. Marvil L. Goldberger, president of the California Institute of Technology, said he would go slowly on restricting the exchange of knowledge or ideas, because such restrictions simply drive the best scientists away from doing important research. Goldberger, a well-known theoretical physicist, was a founder of JASON, an elite group of academic scientists that designed the automated battlefield used in Vietnam.

In an attempt to allay the fears of scientists without losing their support, White House deputy press secretary Larry Speakes stated Jan. 8, "The administration is very concerned about the loss of technology to the Soviets. It is a matter being seriously addressed by a number of departments and agencies. There is no consideration being given to any mandatory program for review of scientific papers."

At the same time, an official displayed a circuit board claimed to be from a Soviet buoy fished out of the water off the North Carolina coast about six months ago. This buoy, he said, measures ocean currents and temperatures and radios this information back to the Soviet Union for possible use in antisubmarine warfare. The circuits, he said, are "direct copies of U.S. circuits."

Inman's proposal has a precedent, in which he himself was involved; a voluntary system has been established in which mathematicians working in codemaking and codebreaking submit their papers to the National Security Agency for clearance before publication. However, Inman's speech is a major escalation, to include such areas as computer hardware and software, other electronic gear and techniques, crop projections, and manufacturing procedures.

R K MYFZYVEEV

14 January 1982

FBC-MEYER-01-14

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NEWS FOCUS

RELEASE FRIDAY, JAN. 15, 1982

BY CORD MEYER

THE THREAT OF THE SIBERIAN PIPELINE

WASHINGTON -- THE NORMALLY SOFT-SPOKEN AND CAUTIOUS ADM. BOBBY INHANT, DEPUTY DIRECTOR OF THE CIA, JOLTED A RECENT MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. HE WARNED STARKLY THAT THERE WOULD BE A "TIDAL WAVE" OF PUBLIC OUTRAGE WHEN UPCOMING CONGRESSIONAL HEARINGS REVEAL HOW THE SOVIETS HAVE BOUGHT, BORROWED AND STOLEN AMERICAN HIGH TECHNOLOGY TO ESTABLISH THEIR MILITARY ADVANTAGE.

DEFENSE SECRETARY CASPAR WEINBERGER HAS CONFESSED THIS WEEK THAT "OUR BUREAUCRACY WAS ASLEEP" WHILE THE RUSSIANS LEGALLY AND ILLEGALLY ACQUIRED THE AMERICAN TECHNICAL SECRETS NEEDED TO BUILD THEIR OWN ELECTRONICS INDUSTRY FOR ADVANCED WEAPONS PRODUCTION.

FINALLY DETERMINED TO CLOSE THE BARN DOOR BEFORE ALL THE HORSES ARE GONE, THE REAGAN ADMINISTRATION IS NOW MOVING ON MANY FRONTS TO PROTECT REMAINING U.S. SECRET TECHNIQUES AND SKILLS. BUILDING ON THE MORAL REVULSION AGAINST THE SOVIET-DIRECTED CRACKDOWN IN POLAND, REAGAN OFFICIALS HAVE SELECTIVELY IMPOSED SANCTIONS ON RUSSIA THAT ARE DESIGNED TO CUT BACK SHARPLY ON FUTURE SOVIET EXPLOITATION OF AMERICAN TECHNOLOGY.

NOT GENERALLY UNDERSTOOD IS THE FACT THAT THE REPRESSION IN POLAND HAS ACTED AS A CATALYST WITHIN THE REAGAN ADMINISTRATION. IT HAS FORCED A CLEARCUT DECISION NOT TO SELL AMERICAN OIL AND GAS TECHNOLOGY TO THE SOVIETS TO HELP THEM BUILD THE YANAL GAS PIPELINE FROM SIBERIA TO WESTERN EUROPE.

BY CANCELING THE PROPOSED SALE TO RUSSIA BY CATERPILLAR TRACTOR OF HEAVY PIPE-LAYING EQUIPMENT AND BY GENERAL ELECTRIC OF COMPRESSOR COMPONENTS, PRESIDENT REAGAN HAS DELIBERATELY THROWN A GIANT MONKEY WRENCH INTO WESTERN EUROPEAN PLANS TO LEND THE SOVIETS \$15 BILLION IN RETURN FOR ACCESS TO SIBERIAN GAS. IN THE OPINION OF THE EXPERTS,

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THE WASHINGTON POST
13 January 1982

Corrections

Last Friday it was reported that Adm. Bobby R. Inman, deputy director of the CIA, asked scientists to allow intelligence agencies to screen their work prior to publication, for possible censorship of militarily "sensitive" material. Inman did not limit the reviewing to intelligence agencies; he also suggested that other government agencies, for commercial as well as military reasons, might screen scientific work.

A lid on scientific information?

THE RUSSIANS are getting a lot of technical information from the United States and putting it to use in their military buildup, says Adm. Bobby R. Inman. The deputy director of the CIA thinks a key means of stopping this is for scientists to let U.S. intelligence agents examine their papers before they're published. They should do this voluntarily — or else.

That was the message Adm. Inman delivered recently to a panel session at the annual meeting of the American Association for the Advancement of Science. He said congressional investigations now in progress will demonstrate that as the Soviets have expanded their military, "the bulk of new technology which they have employed has been acquired from the United States."

Part of his remedy would be an intelligence review of scientists' work to see if any of it should be stamped secret. If

scientists don't agree to this, he predicts a "tidal wave" of public outrage and of laws restricting their work.

Apart from his blatant attempt to throw fear into the scientific community, the admiral's approach is wrong on a couple of counts. For one thing, it implies that scientists are somehow responsible for what he calls a "hemorrhage of the country's technology." They're not.

The Soviets get technology from the West mainly by purchase of our goods and by reading our technical publications. In most instances there's no way to predict or control use. A computer and its programs can be employed in many ways, in both military and civilian sectors. Maybe the United States would want to choke off sales of such equipment — although that seems doubtful — but could a free country effectively police all of the hundreds of publications in which technical infor-

mation is printed? Would it want to?

Another problem is that keeping scientific knowledge secret for very long is virtually impossible. No country has a monopoly on brains or resources. It frequently happens that scientists in different countries, who don't even know of each other's existence, arrive at similar findings near the same time.

It can make sense not to broadcast information on especially sensitive matters with a strictly military application, like the H-bomb formula, but even data in so narrow an area as this cannot be indefinitely bottled up. The kind of lid Adm. Inman wants to clamp on scientific information could never spread wide enough or hold tight enough to be effective. It is undignified and inappropriate for him to threaten scientists with a backlash in public opinion. The public understands this situation better than he thinks.

HOUSTON CHRONICLE (TX)
11 January 1982

Free flow of scientific ideas vital

Science, in its purest form, is the systematic acquisition, analysis and dissemination of knowledge. It is best served by the free flow of information within the nation and the global community, and any attempt to censor or control this knowledge would inhibit the work of researchers and the advancement of science in the world. Science is vital for the nation's economy and security. Scientists do not work in a vacuum. Their work depends on knowledge and techniques acquired from many sources, and their work is given validity under a system known as "peer review," in which the published findings of scientists are tested and analyzed by others.

The deputy director of the CIA, Adm. Bobby R. Inman, concerned about the flow of scientific and technical knowledge from the United States to the Soviet Union, recently warned U.S. scientists of a "tidal wave" of public outrage and legal restrictions if scientists do not agree to voluntary review of their work by U.S. intelligence agencies prior to the start of research and prior to publication of the findings.

Scientists working on secret defense projects are already subject to normal security and classified information procedures, but to place the flow of all scientific publication under the control of the CIA and other secret intelligence agencies, voluntarily or otherwise, would seriously damage the quest for knowledge and inhibit scientists from pursuing projects in fields that are vital for the nation's economy and security. It is true that a totalitarian police state such as the Soviet Union enjoys certain advantages: It can share the knowledge of the Free World without having to share advances made within its borders. But this advantage is achieved through methods that the United States and free societies cannot afford to emulate. The deputy director of the CIA is professionally occupied with the security of the nation, but to place the work of researchers in the fields of "computer science, electronics, lasers, crop projection and manufacturing procedure" under an inhibiting system of censorship would be more damaging to the cause of national security and prosperity than the sharing of non-classified U.S. technical knowledge and pure research with the world.

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ON PAGE A-21

NEW YORK TIMES
10 JANUARY 1982

CURBS BEING URGED ON DATA TO SOVIET

U.S. Officials Fear Unclassified Scientific Information May Help Russian Military

By PHILIP M. BOFFEY

High Pentagon and intelligence officials are urging that action be taken to stem the flow of unclassified scientific communication that might be of military value to the Soviet Union.

Their increasingly strong exhortations are causing concern among leading scientists who consider an unfettered exchange of ideas and information essential to the further progress of science and to American technological and military power.

Frank C. Carlucci, Deputy Secretary of Defense, recently warned the American Association for the Advancement of Science that "the Soviets exploit scientific exchanges as well as a variety of other means in a highly orchestrated, centrally directed effort aimed at gathering the technical information required to enhance their military posture."

In a letter published in last week's issue of the association's journal, *Science*, he voiced concern over the disclosure of sensitive information through exchanges of scholars and students; joint conferences, publication of articles in the open scientific journals and the Government's own depositories of technical data.

Failure to Provide Data

Mr. Carlucci said the exchange of information under bilateral agreement was often "one-sided," with the Soviet Union acquiring information from the United States but failing to provide data requested in return.

He also said the Russians were "misusing" an exchange program for young scholars. He said the United States was sending young students, mostly in the humanities, while the Soviet Union was sending senior technical people, some from military institutions.

Mr. Carlucci said Soviet exchange scientists were often involved in applied military research. As an example, he cited the case of a Soviet scientist who studied "the technology of fuel-air explosives" at a leading American university in 1976-77, under the tutelage of a professor who consulted on such devices for the Navy.

He said the Russian also ordered numerous documents pertaining to fuel-air explosives from the National Technical Information Service, an unclassified technical depository operated by the Commerce Department. Then, Mr. Carlucci said, "he returned to his work in the U.S.S.R. developing fuel air explosive weapons."

Pentagon Is 'Alarmed'

Mr. Carlucci offered no suggestions on what should be done, and his office said he did not wish to amplify his letter. In the letter, he said that the Defense Department "views with alarm" such "blatant and persistent attempts" to siphon away militarily useful information and believes it is "possible to inhibit this flow without infringing upon legitimate scientific discourse."

Adm. Bobby R. Inman, Deputy Director of Central Intelligence, went a step further in a speech to the science association's annual meeting in Washington last week.

He suggested that a voluntary system might be needed in which national security agencies could have some voice in reviewing research proposals before funds were provided and in examining research results before they were published. He expressed particular concern over "computer hardware and software, other electronic gear and techniques, lasers, crop projections, and manufacturing procedures."

Admiral Inman later said in a telephone interview he was expressing a personal opinion, and not the agency's views. He said he was not concerned about any areas of basic research, the kind of research that academic scientists are most involved in, but he was concerned about some fields of applied research and technology.

Pressure for Curbs

Government officials have long sought to curb the export of devices and technical plans that can quickly be applied to military or industrial purposes.

In recent years, the Government has also sought to stem the flow of sensitive scientific information and ideas. Under

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intenuons and I don't take it lightly, we will not let the matter rest."

He said that Mr. Carlucci's "letter focused mainly on half a dozen bad cases including some exchanges that were discontinued because they were so one-sided" and that "he barely touched on the problems of the open literature and international conferences."

Frank Press, president of the National Academy of Sciences and former science adviser to President Carter, said that official exchange programs were of mutual benefit, not one-sided, and that individual scholarly exchanges served few scientists. "The big leakage is in the trade journals and the open literature, and we're not going to stop that," he said. "It's the price we pay for a free society."

Marvin L. Goldberger, president of the California Institute of Technology, said he would "go slowly" on restricting the exchange of knowledge or ideas. He said such restrictions simply drove the best scientists away from doing important research.

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THE WASHINGTON POST
9 January 1982

Scientists Call Research Cens a 'Nightmare'

By Philip J. Hilts
Washington Post Staff Writer

Skeptical and openly hostile scientists argued yesterday that submitting their research for censorship by intelligence agencies to prevent it from being exploited by the Soviet Union would be an unworkable nightmare and the United States would be the big loser.

Adm. Bobby R. Inman, deputy CIA director, urged scientists at the American Association for the Advancement of Science convention Wednesday to submit to censorship voluntarily because, he said, there is a "hemorrhage of the country's technology," and the Soviet military advances of recent years have been based largely on the work of U.S. scientists.

He suggested that U.S. scientists submit their work, both "prior to the start of research and prior to publication," to U.S. intelligence agencies so they can censor work considered harmful to the national security.

Yesterday, Larry Speakes, White House deputy press secretary, said: "The administration is very concerned about the loss of technology to the Soviets. It is a matter being seriously addressed by a number of departments and agencies. There is no consideration being given to any mandatory program for government review of scientific papers."

The United States will urge its allies later this month to crack down on the legal and illegal flow of militarily important technology to the Soviet Union, defense officials say.

"There have been some terrific losses," particularly in micro-electronic know-how vital to a range of modern land, sea and air weapons, said an aide who asked to remain anonymous.

One official displayed a circuit board he said was in a Soviet buoy fished out of the Atlantic by an American boatman off North Carolina about six months ago. This buoy, he said, automatically measures ocean currents and temperatures — information valuable in anti-submarine warfare — and radios it back to the Soviet Union. The circuits, he said, are "direct copies of U.S. circuits."

U.S. officials suggested that much of the movement of key technology through illegal channels is material that has been stolen—either by people doing it simply for money or those carrying out espionage assignments. He also said some U.S. companies assemble equipment in Third World nations and that some of their workers may make off with samples.

In attempting to deny the Soviets our best science by not publishing it, said Robert Rosenzweig, a spokesman for Stanford University, "we would lose the science ourselves. We would be the bigger loser."

He said an enormous number of scientists and their work would be involved in any attempt to shut off publication of sensitive research. Thus the program would be unworkable and "disastrous" and might lead to programs still worse to correct the situation.

William Carey, executive officer of the AAAS, the largest general science membership organization in America, said that "What alarms scientists about the [Inman proposal] is that once science accepts the government's right to prior restraint... the programs are carried out by individuals in the national security establishment. They resolve questions where there is doubt on the side of censorship rather than the freedom of scientists."

He said scientists did not want to be subject "to the whims of unknown people inside the walls of the military, not just about immediate problems, but potential ones.... This would be a nightmare, no more and no less than a nightmare."

Sydney Weinstein, director of the Association for Computing Machinery, said he objected to the use of scare tactics, such as talking about the Soviet threat or the threat of legislation, "to make people do what they want them to do. There should be a more rational way of dealing with this."

Carey and Frank Press, president of the National Academy of Sciences, acknowledged that there is a problem in the way technology is picked up by the Soviets and others. Press said Inman has, until now at least, opened a dialogue with the universities in a way that is unprecedented for someone in the intelligence

Scientists Warned on Secrecy

WASHINGTON, Jan. 7, (AP) — The deputy director of the Central Intelligence Agency warned scientists Thursday that they faced legal restraints unless they voluntarily agreed to measures to prevent the loss of sensitive military technology to the Soviet Union.

In a speech at a panel discussion of the annual meeting of the American Association for the Advancement of Science, the official, Adm. Bobby R. Inman, predicted a "tidal wave" of outrage when the public learned of the "hemorrhage of the country's technology."

He predicted that such public pressure would lead Congress to pass tough laws restricting scientific exchanges of information or the publication of scientific papers that the Government thought might affect the national security.

Current Congressional investigations

will show that in the Soviet military buildup "the bulk of new technology which they have employed has been acquired from the United States," he said. Admiral Inman said research fields that might be affected include computers, other electronic gear, crop projections and some manufacturing techniques.

When he was the director of the National Security Agency, Admiral Inman helped establish a voluntary system in which scientists publishing research in codemaking and codebreaking submit their papers to the security agency for clearance before publication.

He did not offer a specific plan for extending voluntary submission of scientific work to other areas, but he said that scientists would find a voluntary program preferable to one established by Congress.

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ON PAGE A1

THE WASHINGTON POST
8 January 1982

Scientists Urged To Submit Work For U.S. Review

By Philip J. Hilts
Washington Post Staff Writer

Adm. Bobby R. Inman, deputy director of the CIA, warned scientists yesterday that they face a government crackdown to curb Soviet use of militarily sensitive American technology unless they agree to voluntary "reviews" of their work by intelligence agencies.

If scientists do not cooperate in keeping some of their papers secret voluntarily, they will encounter a "tidal wave" of public outrage resulting in tough restrictive laws, Inman told a panel at the annual meeting of the American Association for the Advancement of Science.

Scientists should beware that congressional investigations now in progress will point up the "thoroughly documented" fact that, in the buildup of Soviet defense capability, "the bulk of new technology which they have employed has been acquired from the United States," Inman said.

When the details of this "hemorrhage of the country's technology" become known, Inman said, public outrage will lead to laws restricting the publication of scientific work that the government might consider "sensitive" on national security grounds.

Most of the audience consisted of military officers and businessmen who appeared to sympathize with Inman's proposal. He got hostile questions, however, from the handful of scientists present. They considered the proposal repressive censorship.

"The tides are moving, and moving fast, toward legislated solutions

that in fact are likely not less restrictive, the system he has sugges

When he was director of the Agency, the code-making agency, Inman led a group of private researchers in the mathematical theory of

The NSA also briefly imposed secrecy orders on some private code research in recent years.

But in April, 1981, the National Science Foundation, the American Council on Education and the NSA cooperatively produced a voluntary review system under which scientists can submit their papers to the NSA and receive a judgment on whether they possibly contain information damaging to the national security.

Since then, about 25 papers have been reviewed and none had problems, according to Daniel Schwartz, until recently chief counsel for the NSA.

Inman wants to extend this sort of voluntary system to many other kinds of work, he said yesterday.

"There are other fields where publication of certain information could affect the national security in a harmful way," Inman said. He cited "computer hardware and software, other electronic gear and techniques, lasers, crop projections, and manufacturing procedures."

Rather than a faceoff between scientists and the protectors of national security, he said, "I believe a wiser course is possible. . . . A potential balance between national security and science may lie in an agreement to include in the peer review process, prior to the start of research and prior to publication, the question of potential harm to the nation."

He did not go into detail except to say that he would like to modify in some way the manner in which scientific work and papers are normally reviewed to allow intelligence agencies access to the system.

Inman said one problem in getting cooperation from scientists is that intelligence agencies usually cannot explain why they want to censor a particular publication, or even define the kind of information they want to censor, because this may be as revealing as the publication itself.

But he warned that those who say "don't give us any regulations" are "about to have that way of thinking washed away by the tidal wave" of public outrage.

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THE WASHINGTON POST
6 January 1982

JACK ANDERSON

FBI, CIA Play A Little Game Of Snow White

The FBI and CIA are playing a little game of Snow White: "Mirror, mirror, on the wall, who's the purest of them all?"

The CIA, it seems, has its doubts about the FBI's elite, 110-man counterintelligence staff. This is a role-reversal of the days when the late FBI director, J. Edgar Hoover, doubted the CIA people's loyalty. Here's one incident:

In late October, the FBI assigned two G-men to the CIA for liaison duty. The FBI agents belonged to the bureau's counterintelligence force, supposedly the *creme de la creme*.

But in the course of their duties, the FBI men would have access to documents even beyond the top-secret category for which they had been cleared. So the CIA made them submit to the agency's rigorous polygraph tests, something the FBI does not require.

One of the G-men passed the lie-detector test; the other flunked. The CIA refused to give the second man clearance.

The questions in the CIA's polygraph examinations are extremely personal. They include such subjects

as sexual preference and practices, past and present, and any other personality traits that might render a CIA employee vulnerable to blackmail, greed or ideological temptation.

All CIA employees know they may be asked to take a lie-detector test at any time, without warning or stated reason. An innocent-looking red security pass merely turns up on the employee's desk. It's a non-refusable invitation to the security office for interrogation, while hooked up to the sweat-and-pulse beat machine.

But FBI agents aren't accustomed to such treatment. So when the one agent failed the CIA polygraph, his bureau bosses were unimpressed.

The questions the G-man flunked involved his continuing contacts with the KGB. Sources told my associates Dale Van Atta and Indy Badhwar that the agent, as a counterintelligence officer, dealt with undercover KGB people as part of his job. He may have expressed some sympathy for one of his KGB targets. No big deal, according to the FBI.

But to the CIA, the FBI man was a potential double agent. CIA Director William J. Casey and his deputy, Adm. Bobby R. Inman, were reportedly alarmed by the polygraph test results. They suggested that all 110 FBI counterintelligence agents be run through the CIA's lie-detector tests. Inman, a fan of polygraphs since his days as head of the National Security Agency, strongly urged the idea.

When FBI Director William Webster broached the idea tentatively, he was confronted with a virtual rebellion. The counterintelligence staff refused to submit to the rival agency's polygraphs, and some threatened to quit en masse if required to do so. Webster told the CIA to forget about the polygraph tests.

What Webster didn't realize, according to my sources, is that there were two reasons his counterintelligence agents didn't want to take the polygraph tests. One was their professional distaste for being pushed around by another bureaucracy.

But the main reason was fear that the CIA lie-detectors might turn up some unpleasant information.

Footnote: A CIA spokesman denied that any such dustup with the FBI has occurred.

Whose Side is the CIA on?

The Central Intelligence Agency is up to its old tricks again—dirty tricks. The boys in the backrooms seem determined to lower themselves to the Soviet level and adopt tactics that in the past have been reserved for terrorists and tyrants. CIA operatives are fomenting world terrorism, which we profess to abhor; they are spreading “disinformation” when the truth would be a far more powerful weapon.

I cannot think of an instance in the last 20 years when a covert CIA operation enhanced our security without damaging our credibility as the world's leading spokesman for freedom and democracy. More likely, the CIA's clandestine stunts embarrassed our country, held us up to global ridicule, played into the hands of our adversaries or invited retaliation in kind.

Consider the litany of CIA fiascoes—the attempt to invade Cuba with a ragtag refugee force that was easily defeated at the Bay of Pigs; the plot to dose up Fidel Castro so his beard would fall out; the contract with the Mafia to have him knocked off; the scheme to smuggle poisoned toothpaste into Africa to kill left-wing leader Patrice Lumumba; the clandestine military operations in Laos and Iraq, which backfired and ended in the slaughter of mountain tribesmen abandoned by the CIA; the agent who plugged in a lie detector and blew out all the lights in a Singapore hotel; and the bizarre scheme to try to contact dead Soviet agents by seance on the assumption that, since dead, these agents would recognize the errors of their ways and spill their secrets.

These abuses and absurdities finally brought a congressional clampdown on the CIA. No more reckless engineering of coups in other lands, the agency was told, and no more attempts to foment revolutions and to assassinate foreign leaders. But now a conservative backwash threatens to “unleash” the agency again—a salivating prospect for the “old boy” operatives whose arrested maturation and glassy-eyed professionalism were precisely what made “covert” a dirty word and brought on the crack-

administration offer much hope that it will resist the pressure to unshackle the CIA. Too many in this administration seem oblivious to the menace that poverty, hunger, racism, religious fanaticism and right-wing oppression pose to global stability and, ultimately, to our own security. Instead, they seem obsessed with the notion that the Kremlin, Castro and Qaddafi are the only threats—and ergo, that any enemy of theirs is a friend of ours.

On the basis of top-secret documents I have examined and confidential information I have received from CIA contacts, I can report to you today that the CIA is preparing to join forces with totalitarian regimes and anti-communist factions to carry out covert operations around the world—operations as bizarre and potentially as counterproductive as those that disgraced the agency and our country in the Sixties and Seventies.

Bill Casey, the doddering director of the CIA, thinks he's found a way to get around restrictions on covert operations abroad and a way to circumvent the law which forbids the CIA from operating in our own country. Casey thinks he can get foreign agents to do the dirty work, with our support.

He argues that the dismantling of U.S. covert capabilities has left Pres-

Casey thinks he can get foreign agents to do our dirty work, with our support.

ident Reagan “with no reasonable option other than increased cooperation with anti-communist forces abroad.” A top-secret planning document recommends that “consideration be given to improving the capability of the agency to rapidly escalate aid to anti-communist forces.”

That could put our country, the bastion of democracy, in bed with

RAISING HELL!

BY JACK ANDERSON

and traditions than a loathing of communism. It could also leave us with a wide open window of vulnerability.

Libya and Cuba are priority targets, of course, for any new round of covert activities inspired by the CIA. Within the protected corridors of CIA headquarters in McLean, Va., there is whispered speculation about bizarre schemes to do away with Qaddafi. A hit man could pose as one of the Libyan ruler's team of international mercenaries and slip him a delayed-effect poison, for example. There would be no symptoms for the first 48 hours, enough time for the assassin to exit the country. Qaddafi would then come down with symptoms indistinguishable from certain viral diseases: he would become paralyzed, slip into a coma and expire—without a trace of the poison left in his body.

The CIA got the idea for this poison from the Rumanian secret service, which used it to dispose of some dissidents who had been given asylum in western nations. The assassins were never caught. I have seen the formula for the poison, which could be mixed in many chemical labs; but journalistic responsibility forbids me from publishing details.

The CIA considered using a tiny dart, made up to resemble one of the black flies which infest the desert, as the means